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ABSTRACT

Considered in the paper are past and current developments in the education of gifted and talented students in the United States. Discussed are the following aspects: identification (including specific evaluations of giftedness, and distinctions between creativity and I.Q.); programing methods and approaches (such as creative problem solving techniques and creative thinking operations); problems of the highly gifted (including confrontations with peers brought on by nonconformity and independence); support for special educational opportunities (such as the establishment of the Office of Education for the Gifted and Talented and the National Leadership Training Institutes); and implications and future directions (including an increase in teacher training programs for the gifted and talented, and the development of technical assistance centers). (CL)

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JCATING THE GIFTED CHILD: CHALLENGE AND RESPONSE IN THE USA[1]

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The overwhelming advances in so many significant facets of our lives in the Twentieth Century especially over the past 50 years brought into sharp focus the recognition that these outcomes were made possible by people who were exceptionally gifted and talented -- people who comprise our richest natural resource. We have also become convinced through observation and research that we can not only tell with reasonable expectancy of accuracy who among us have the potential of becoming contributors to progress but also that we can to a large extent arrange circumstances in our environment to help realize this more fully and speedily. Ofcourse with experience we have come to understand that we are not in complete control of events though we can to a great extent do something about it if we designed our strategies well, and by so doing allow with the least chance of error the operation of arranged circumstances to bring about the successful achievement of our goals.

This presentation will consider some of the major contributions in the United States that have been made by way of identifying giftedness, providing special educational opportunity for them, recognizing some of their special problems, legislation and its implications for special educational opportunities for the gifted and talented, and other private and public supportive efforts for the advancement of the gifted and talented.

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IDENTIFYING GIFTEDNESS

The subject of identifying giftedness has not been altogether settled: on the one hand we have the problem of deciding what qualities of human beings can be categorized as gifted and on the other hand we have the problem of deciding the extent to which they are measurable. Prior to 1950 attempts at identification had as its theoretical base intelligence and its correlates in achievement; and measures that were used ranged from verbal and performance IQ or a composite of both as instanced by measures like the individually administered Stanford-Binet or the Wechsler scales, or in the generally group administered California Test of Mental Maturity, the Raven's Progressive Matrices and the Goodenough-Harris Draw-a-Man test, to tests that subscribed to the measurement of many intellectual abilities as for example the Primary Mental Abilities, Differential Aptitude Tests and the Multiple Aptitude Tests. Among the standardized achievement measures used in the US for the purpose of screening gifted children have been the Stanford Achievement Test, California Achievement Test and the Metropolitan Achievement Test. Ofcourse sometimes reliance was also placed upon teacher observation and school grades. All in all, however, the emphasis of identification was on high IQ indices and school achievement.

From the investigations of geniuses and other categories of highly gifted people came clues about their unique characteristics which indicated that the gifted were generally physically and psychologically healthier people, certainly more mature and intellectually ahead of their age mates, excelling in most human and educational activity.

After 1950 thoughts about the gifted expanded to include not only conceptions of the intellect as a multi-faceted potential but also that giftedness could manifest itself in many different ways apart from

academics to include talent in highly specialized areas of achievement. Relative to the expanded concept of intelligence was the Structure of Intellect Model (Guilford, 1967), which focused attention not only on the many ways a person could be intelligent but also that there were qualitative differences in intellectual functioning which included divergent (and the less precise but more inclusive term creative) thinking. The ramifications of this fresh conceptualization of intellectual functioning were great: it has significantly influenced measurement of intellectual abilities in the US, providing the much needed framework for the development of all kinds of educational opportunities for children in general and gifted children in particular, it has stimulated an overwhelming abundance of research in areas related to identification, nuture and concomitant problems.

The characteristics of the gifted child now included the component of creativity; and to the earlier concepts of gifted people could now be added elements of behavior that were creative, spontaneous and non conforming, that involved a more sensitive apprehension and interaction with the external environment, that identified more intense emotional involvement and commitment, that involved creative leadership and adjustment adeptness far above the ordinary.

Of the many definitions of creativity the two which have been most productive of instrument development are Guilford's divergent thinking and redefinition abilities as components of the Structure of Intellect Model, and Torrance's definition of creativity as a process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmony, and so on; identifying the difficulty; searching for solutions, making guesses, or formulating hypotheses about the deficiencies; testing and retesting these hypotheses and possibly modifying and retesting them; finally communicating the

results (Torrance, 1974a). To these may be added for instance the definitions as given by Wallach and Kogan (1965) as the ability to generate or produce within some criterion of relevance many cognitive associates and many that are unique, or my definition of originality as the power of the imagination to break away from perceptual set so as to restructure anew ideas, thoughts, and feelings into novel and meaningful associative bonds (Khatena & Torrance, 1973).

Among the foremost psychologists in the field of creativity measurement are Guilford and Torrance. Generally, their measures give major roles to abilities known as fluency (the number of responses that are produced), flexibility (shifts in thinking from one category of thought to another), originality (statistical infrequency of responses or unusualness, remote association and cleverness), and elaboration (the adding of details to the basic idea or thought expressed) though their approaches to the problem of measurement differ. While Torrance (1966, 1974a) attempts to measure these abilities through the presentation of several complex tasks designed to trigger the expression of these several abilities at one and the same time, Guilford (1967) attempts to measure divergent thinking by using a test format which generally requires the subject to respond to many stimuli each setting out to measure a specific component of the Structure of Intellect Model.

The various measures of creativity produced by Guilford and his associates relate to Divergent Production Abilities of the Structure of Intellect Model, and have in the main been used with adult and adolescent populations although some work with them have involved younger children (Guilford, 1967, 1975). Measures relevant to 18 of the 24 Divergent Production abilities are described in the Nature of Human Intelligence (Guilford, 1967) and do not include Divergent Figural Relations, and

and Divergent Symbolic Transformations with measures of the Behavioral components of Divergent Production abilities included in a paper by Guilford, Hendricks and Hoepfner (1968).

The Torrance Tests of Creative Thinking batteries (1966, 1974 a) present either verbal or figural material in the visual modality while Thinking Creatively with Sounds and Words (Torrance, Khatena & Cunnington, 1973) presents visual or sound material in the auditory modality, with both sets of creative measures calling upon subjects to use their imagination to produce relevant and unique responses, and with both developed for use by children and adults.

Other measures available are by Wallach and Kogan (1965), Mednick and Mednick (1964), Schaefer (1970, 1975), Starkweather(1971), and the like. The 1975 Summer issue of the Gifted Child Quarterly has devoted itself to some up-to-date developments in the area of creativity measurement, and the contributions of Guilford (Creativity Tests for Children), Feldhusen and Houtz (Purdue Elementary Problem Solving Inventory), Torrance (Ideal Pupil Checklist), Schaefer (Similies Test), Khatena (Imagination Imagery and Onomatopoeia and Images), Malone and Moonan (Behavioral Identification of Giftedness Questionnaire), and Bruch (Assessment of Creativity in Culturally Different Children) should be noted.

Much of measurement research in terms of validity, reliability and normative studies have followed the construction of instruments relative to creative thinking abilities and have been reported in the respective norms-technical manuals or in numerous papers. Associated with this is the greater awareness and sensitivity to attendant problems and many studies over the past decade or so have concerned themselves with the problematic issues of measuring creativity which have pivoted around such issues as definition, dimensionality, item sampling, scoring, reliability, validity, conditions of test administration, useability,

culture fairness and relevance, and norms (e.g. Anastasi & Schaefer, 1971; Guilford, 1971; Khatena, 1971; Mackler & Shontz, 1965; Treffinger & Poggio, 1972; Yamamoto, 1966).

The issue of dimensionality refers in particular to IQ and Creativity relative to the constructed measures and has received some special attention at first by the well known Getzels and Jackson study (1962) and later in the eight partially replicated studies by Torrance (1962) which basically indicated that some fundamental differences existed between children identified as highly intelligent and those identified as highly creative such that the upper 20 percent of a given population on an intelligence test alone would miss 70 percent of those who would be identified as gifted by a test of creative thinking (Torrance, 1970). McKinnon's paper (1964) emphasized that a certain amount of intelligence is required for creativity but beyond that point, being more or less intelligent did not determine creativity; and Wallach and Wing's study (1969) on the creativity-intelligence distinction suggested that since a wide range of talented accomplishments that society may wish to sustain and nourish are lost to view by a too heavy reliance on intelligence screening measures we ought to depend upon identification of ideational ability (a concept quite extraneous to intelligence) that is supportive of talented accomplishment as well.

The evidence suggests that these differences appear to be more a function of the measures used rather than qualitative differences in intellect on the one hand, and style of intellectual functioning that has called for the operation of creative thinking abilities and its emotive correlates more or less often on the other hand.

While all this seems to have added to our difficulties we do have measures that can aid us to make quite appropriate identification of gifted children. Whether we use the deviation IQ index or the Creative

Thinking Abilities indices, the highly intellectually-creatively gifted can be identified as those people whose scores are two standard deviations and more above the mean relative to the ability or abilities measured. We are generally talking about the upper five percent of a population who are gifted though some variation does exist about whether we should lower or raise this cut off point in the selection of gifted children for special educational opportunities. Generally, there is an increased tendency today to screen for both intelligence and creativity. It must be noted that the term "gifted" as used today refers to more than general intellectual and creative thinking abilities; it also refers to high leadership ability, visual and performing arts abilities, and psychomotor ability (Education of the Gifted and Talented Report, 1972) though bias for intellectual ability still exists in the selection process.

NUTURE OF THE GIFTED AND TALENTED

Developmental acceleration of creative mental functioning through planned environmental enrichment has been claimed and generally substantiated by the research in Compendiums I and II of Research on Creative Imagination (1958 & 1960), the works of Osborn (1963), Khatena (1973a,1975), Meeker (1969), Meeker, Sexton & Richardson (1970), Parnes (1967ab), Parnes & Noller (1973), Renzulli (1973), Treffinger (1975), Torrance (1965a,1972), Williams (1971)and others.

In the main, enrichment of the learning environment has taken the forms of enriched curriculum materials and physical surroundings; more effective methodological approaches; psychological climates conducive to optimum learning; enrichment of learning in regular classrooms; provisions of correspondence courses and tutoring; placement in advanced grades or classes; attendance of college classes by high school students; special counselling or instruction outside classrooms; sensitivity training; individualized instruction through such means as team teaching, nongraded plans, independent study; special classes for the highly gifted

with specially trained teachers, supervisors and consultants; special groups; curriculum improvement through programs which emphasize higher level thought processes, creativity, divergent thinking; and special attention to the emotional and social adjustment of gifted pupils and the like (Education of the Gifted and Talented Report, 1972; ERIC/CEC Selective Bibliography, 1973).

Children have been taught to learn creatively in many different programs and these approaches reported by 142 studies have been recently abstracted and summarized (Torrance, 1972) as training programs emphasizing the Osborn-Parnes Creative Problem-Solving procedures; programs involving packages of materials such as the Purdue Creative Program; the creative arts as vehicles for teaching and practicing creative thinking; media and reading programs designed to teach and give practice in creative thinking; curricular and administrative arrangements designed to create favorable conditions for learning and practicing creative thinking; teacher-classroom variables, indirect and direct control, classroom climate, and the like; motivation, reward, competition, and the like; and testing conditions designed to facilitate a higher level of creative functioning or more valid and reliable test performance. To these must be added the recent applications by Torrance (1974b) of creative thinking operations and creative problem-solving techniques to train people to think ahead and anticipate problems that they will need to solve in the future in creative ways. Description of much of these and other relevant information can be found in an updated list of methods and educational programs for stimulating creativity prepared by Treffinger and Gowan (1971).

SOME PROBLEMS OF THE HIGHLY GIFTED

Along with the attention given to measurement and nuture came an awareness of the special problems highly intelligent and creative children experience as they grow up. The research on the "Genetic Studies of

Genius" by Terman (1959) and Oden (1968) reported in two follow-up investigations (over 35 and 40 years respectively) that the geniuses studied had grown to be gifted adults who maintained their intellectual ability, had lower mortality rates, good physical and mental health, manifested minimal crime, ranked high in educational and vocational achievements were active in community affairs, and held moderate political and social views, and with two-thirds of them feeling that they had realized their potential. Another study (Cox, 1969) concludes that geniuses are not only characterized in childhood by superior IQ but also by traits of interest, energy, will, and character that foreshadow later performance. However, Oden (1968) in attempting to assess correlates of vocational achievement and genius compared 100 most and least successful male geniuses and found that the most successful men came from families having higher socio-economic status and giving more encouragement to succeed; ranked higher as adolescents in volitional, intellectual, moral, and social traits; and had more self-confidence, perseverance, and integration toward goals. In addition, although scholastic achievement had been similar in grade school, half as many of the least successful men had graduated from college. They were also found to be more prone to emotional and social difficulties. Kenmare(1972) found that geniuses are also characterized as being typically Schizophrenic because of the difficulty in synthesizing their personal life and their existence as impersonal creative process, and that erotic love typified their lives.

Torrance (1962, 1965) has given considerable attention to the problems that gifted children face as a result of their conflicting interaction with the environment: the creative energizing forces that dominate the life of the highly creative child sets him up in a position of independence and nonconformity in relation to the group of which he is a member often leading to confrontations of one kind or another which requires that he

either learns to cope with arising tensions with consequent productive behavior and mental health, or that he represses his creative needs with consequent personality disturbances and breakdown. Coping strategies are suggested by Torrance in two of his books namely, Guiding Creative Talent (1962) and Mental Health and Constructive Behavior (1965b).

The concern that most of these problems are culture bound and arise from the negative attitudes of our society towards creatively gifted individuals have been expressed by many prominent thinkers (e.g. Barron, 1963; Getzels & Jackson, 1962; Gowan & Bruch, 1971; Kubie, 1958; Gallagher, 1964; Khatena, 1973b; Krippner, 1967; Torrance, 1970). As this applied to the gifted disadvantaged, the gifted underachiever and dropout, the physically handicapped gifted, and the emotionally disturbed gifted, a good summary can be found in a book by Gowan and Bruch (1971) and in a recent ERIC/CEC selective bibliography (1975).

SUPPORT FOR SPECIAL EDUCATIONAL OPPORTUNITIES

Although our knowledge of the gifted and talented and what we can do for them has increased over the years it has not been without considerable frustration over the obstructionism of a public education system that is essentially geared to a philosopy of egalitarianism. The first really significant step to counteract this problem however, took the form of an Act of Congress of the US that included in the Elementary Ammendements of 1969 (Section 806) provisions relating to gifted and talented children which was signed into law on April, 13, 1970 (Education of the Gifted and Talented Report, 1972). It required the Commissioner of Education to determine the extent to which special educational assistance programs were necessary or useful to meet the needs of gifted and talented children, to evaluate how existing Federal educational assistance programs can be more effectively used to meet these needs, and to recommend new programs, if any, needed to meet these needs; further, the Commissioner was to

report his findings, together with recommendations not later than one year after the enactment of this Act (Section 806c of Public Law 91-230).

This led Commissioner Marland Jr. to indicate the immediate steps the Office of Education could take in 1972 to launch the Federal program for the gifted and talented with no need for new legislation, while providing for long-range planning at the Federal, State and Local levels, by both the public and private sectors to systematically ameliorate the problems identified by the study. These would take the form of a planning report on the Federal role in education of gifted and talented children; assignment of Program responsibility and establishment of a Gifted and Talented Program Group comprising of a nucleus staff augumented by working relations with staff from programs throughout the Department which would have significant potential to benefit gifted and talented children; a nationwide inventory and assessment of current programs for the gifted and talented; the strengthening of state educational agencies towards more effective provision of educational programs for the gifted and talented; leadership development and training of representatives from the states at Institutes whose program would aim at the development of a strategic plan for the education of gifted and talented; career education models in line with the existing ones developed by the National Center for Educational Research and Development; experimental schools devoted to the individualization of programs to benefit gifted and talented students as a comprehensive design to effect education reform; supplementary plans and centers relative to encouragment of Title III ESEA in cooperation with the Office of Education Gifted and Talented Program Group to support still further the effects of agencies within the state to provide special programs for the gifted and talented; ten regional offices with a part-time staff member identified as responsible for gifted and talented education who would act as liaison with the Office of Education National Office,

provide developmental assistance to state agencies, effect continuous dissemination of information and give management assistance to specialized regional activities as they arise; and higher educational opportunities for the gifted and talented to be determined and implemented by the Office of Education Gifted and Talented Program Group.

Three years since their formulation these objectives have found realization in the establishment of the Office of Education for the Gifted and Talented, Office of Education Regional Part-time Directors, the Educational Resource Information Center Clearinghouse on the Gifted and Talented; the National Leadership Training Institutes; Internships to the Office of Education for the Gifted and Talented; Cooperative Interstate Projects supported by Title V (Section 505) funds: a Gifted Students Symposium; and many state projects on the gifted and talented.

Hal Lyon's letter of February, 19, 1975 to friends of the gifted and talented informs that the passage of the Education Ammendments of 1974 (Section 404) has given to the Office of Education for the Gifted and Talented statutary authority to administer programs for gifted and talented children and youth which are administered by the Office of Education for which purpose $2.56 million has been appropriated. He also indicated that a call for proposals would be shortly forthcoming and outlined allocation of funds for different categories of expected projects namely, state comprehensive programs, a consortium of academic institutions and internships that will award graduate credit and degrees to potential leaders, a technical assistance project, exemplary projects relative to special groups of gifted and talented youth, and an analysis of requirements for the gifted and talented and dissemination of the information to practitioners project.

Support has also come from state, county and local agencies and in many states in the US this has become imperative through state law. In

addition, support has come in the form of volunteer community mentor projects, and from Foundations like the Robert Sterling Clark Foundation and the Explorers Club. Directions have also come from expert professionals working as individuals or in teams at Universities or Colleges (e.g. University of Connecticut, University of Georgia, University of South Florida) and other educational organizations (e.g. Western Behavioral Sciences, Creative Education Foundation) in providing training for teachers and other personnel needed to facilitate the education of the gifted and talented, and in providing consultation services to agencies engaged in programs for the gifted and talented. To these must be added the efforts of private schools like the Mirman School for the Gifted in California.

Further significant contributions are also being made by national organizations dedicated to serve the interests of the gifted and talented such as the National Association for Gifted Children, The Association of the Gifted, The American Association for the Gifted, and the Creative Education Foundation, three of which disseminate nationally and internationally up-to-date knowledge in the areas of the gifted and talented through their Journals namely, the Gifted Child Quarterly, the Journal of Creative Behavior, the Exceptional Child and Talented and Gifted Newsletter.

Last but not least let us not forget the concerned, viable and dedicated support of parents working either in groups or as individuals cutting across all boundaries of educational political and legislative agencies to plead eloquently and cajole energetically the cause of the gifted and talented.

IMPLICATIONS AND FUTURE DIRECTIONS

The wheels have been set in motion and there is no turning back. The forward thrusts will gather momentum and the next few years will see not only special educational opportunities for the gifted and

talented provided everywhere in the country but also the beneficial effects on different segments of the school population who will be educated in productive ways.

The need for facilitators and leaders of the gifted and talented will require many more colleges and universities to offer training programs leading to certification and granting of degrees at the Masters and Doctoral levels. Related to this will be the establishment of consortiums of academic institutions that will bring together the best talent in common effort to prepare leaders for effective management and advancement of gifted and talented education.

Research will receive fresh impetus and new directions from these developments leading to greater refinements in more precise identification operations with the aid of computer technology, more deliberate and effective educational programming levelled at needs specific to individuals, more sensitive approaches to the handling of emotional and deprivation problems of the gifted and talented towards greater productivity, and the flexible use of reward and reinforcement systems to direct and enhance the development and acceleration of the gifted and talented at times when they most need the help with effective shifting from extrinsic to instrinsic motivational controls.

The establishment of several technical assistance centers possibly like Gallagher's proposed model but with a system of link-ups among these centers for competent handling of national as well as local needs and goals.

The use of sounder evaluation models having its roots in good design and measurement procedures not only aimed at appraising the progress of various programs and projects but also aimed at providing directions for program refinement and growth to ensure both their internal validity as well as generalizability.

On the matter of instrumentation there is a need for the development of instruments that will measure children's artistic and creative talent in art and music, for instruments that are versatile and sensitive enough not only for identification but also for diagnosis with educational and clinical implications, for measurement tools with finer and more precise calibrations that will allow the study of the many and complex personality variables, and for instruments that will assist us discern distinctly different kinds of creative talent their developmental patterns and their qualitative differences.

Creativity and the function of the imagination which have occupied the attention and focus of many educators in the past two decades will be central to all attempts at identification, educational programing, guidance and mental health in the years to follow.

The scientific and technological advances of this decade can be expected not only to facilitate the development of the gifted at a tremendous rate but also be forced to forge swiftly ahead into newer dimensions with the nutured gifted in control.

We can expect significant social and educational attitudinal change to follow in the next few years that mustreject cripling prejudice and make way for positive and accelerated growth of our gifted.

Two groups of our culture who have been discriminated against and who will be of major concern to us in the years that follow are our gifted women and gifted but socio-economically disadvantaged.

Of great concern too is the overwhelming shortage of trained counsellors knowledgeable about the potential of the gifted and their special problems and free enough to actually attend to individual needs.

Adequate training of teachers for the role they must play as facilitators of the gifted is of major importance but appropriate attitudes and orientation are vital to the effective operation of their competence and must also be included as a major component of the training.

To offset the rigid obstructive application of bureaucratic principles by administrators deliberate preparation for the role they must assume to make effective the new thrusts in education for the gifted is vital.

In the next decade or so we can expect that societial and Federal Government pressures will bring about the enactment of appropriate legislation for the education of the gifted with provision for funding not in just some but all 50 states in the United States with consequent implications for all kinds of changes and provisions in the total educational system.

Regional Offices of Education aimed at promoting and assisting the educational opportunities of the gifted and talented at the interstate levels will have considerable impact at the local levels as well.

More efficient and accurate storage of data on the gifted and talented will take place with the help of ERIC/CEC system as it expands its abstracting and dissemination services not only to individuals but also to institutions and government agencies committed to plans for more effective educational intervention for the gifted and talented.

The establishment of closer working relations among the several national organizations for the gifted and talented have already begun and some further ties with other world organizations like the NAGC of London will be the expected outcome, possibly leading not only to international conferences but also exchange of expert professional and technical assistance, and of exposing gifted and talented children to the best the world community can offer.

In effectively meeting the challenge of our times we need people who are not only extremely bright but have capabilities of adapting themselves to the dynamics of ever changing circumstance. The raw materials are ours, expertise is with us, and the time is ripe: we will be architects to the brilliant and productive people of the future.

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